

Appl. No. : 10/820,417
Filed : April 7, 2004

AMENDMENTS TO THE CLAIMS

Please amend the Claim Form and Claim as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (currently amended): A method of manufacturing a wiring board comprising the steps of:

preparing a composite sheet ~~formed from comprising:~~ (i) a porous film having a top surface and a lower surface and (ii) an adherent sheet containing a thermosetting resin, said adherent sheet being formed on or at the top surface of the porous film;

preparing a wiring layer having wiring patterns formed on an insulating layer;

laminating the composite sheet on top of the wiring patterns by facing the lower surface of the porous film toward the wiring patterns and facing the adhesive sheet away from the wiring patterns under conditions such that ~~at least~~neither one of (a) nor (b) ~~does not occur~~: (a) the composite sheet is deformed to contact both the wiring layer and the insulating layer, and (b) the ~~porous film adherent sheet~~ is impregnated fully permeated within the adherent sheet porous film; and

pressing the composite sheet under heat under conditions such that both (a) and (b) are completed to integrate the wiring board.

2-4 (canceled)

5 (currently amended): The method according to Claim 1, wherein in the step of preparing the composite sheet, the porous film and the adherent sheet are laminated where the adherent sheet is exclusively on top of the porous film.

6 (original): The method according to Claim 5, wherein the step of laminating the composite sheet on top of the wiring patterns is conducted at a temperature of about 100°C or lower and a pressure of about 0.1 MPa to about 1 MPa, wherein (a) does not occur.

7 (original): The method according to Claim 6, wherein the step of pressing the composite sheet is conducted at a temperature of about 100°C to about 200°C and a pressure of about 0.5 MPa to about 5 MPa.

8 (original): The method according to Claim 5, wherein the step of laminating the composite sheet on top of the wiring patterns is conducted at a temperature of about 50°C or lower and a pressure of about 0.1 MPa to about 5 MPa, wherein (b) does not occur.

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9 (original): The method according to Claim 8, wherein the step of pressing the composite sheet is conducted at a temperature of about 100°C to about 200°C and a pressure of about 0.5 MPa to about 5 MPa.

10-12 (canceled)

13 (original): The method according to Claim 1, further comprising attaching a releasing resin film to the composite sheet.

14 (original): The method according to Claim 1, wherein the porous film comprises polyimide or aromatic polyamide.

15 (original): The method according to Claim 1, wherein the porous film is formed by a wet coagulation process.

16 (original): The method according to Claim 15, wherein the wet coagulation process comprises preparing a film forming solution having a resin and an additive dissolved in a solvent, applying the solution to a film forming base material, immersing the base material in a coagulating solution to carry out solvent substitution and to coagulate the resin, and drying and removing the coagulating solution to form the porous film.

17 (currently amended): A method of manufacturing a wiring board comprising:

preparing a composite sheet ~~formed from comprising:~~ (i) a porous film having a top surface and a lower surface and (ii) an adherent sheet containing a thermosetting resin placed on or partially ~~impregnated-permeated~~ within the top surface of the porous film;

preparing a wiring layer having wiring patterns formed on an insulating layer;

laminating the composite sheet on the wiring layer, said lower surface of the porous film being in contact with said wiring patterns of the wiring layer; and

pressing the adherent sheet under heat, whereby the porous film is deformed to contact both the wiring layer and the insulating layer while the adherent sheet is ~~impregnated-permeated~~ within the porous film and reaches the wiring layer.

18 (original): The method according to Claim 17, further comprising attaching a releasing resin film to the adherent sheet.

19 (original): The method according Claim 17, wherein the porous film comprises polyimide or aromatic polyamide.

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20 (original): The method according to Claim 17, wherein the porous film is formed by a wet coagulation process.

21 (original): The method according to Claim 20, wherein the wet coagulation process comprising preparing a film forming solution having a resin and an additive dissolved in a solvent, applying the solution to a film forming base material, immersing the base material in a coagulating solution to carry out solvent substitution and to coagulate the resin, and drying and removing the coagulating solution to form the porous film.

22 (currently amended): A method of manufacturing a wiring board comprising:

preparing a composite sheet having an adherent sheet containing a thermosetting resin adhered to a top surface of a porous film or impregnated/permeated within at least a ~~part thereof~~ the top surface of the porous film;

laminating at least the composite sheet on a wiring layer having a wiring pattern formed on an insulating layer, by facing a lower surface of the porous film opposite to the top surface toward the wiring layer; and

heating and pressurizing the laminated product thus obtained or and optionally further heating and pressurizing it after the pressurization to integrate the laminated product.

23-24 (canceled)

25 (currently amended): The method according to Claim 22, wherein ~~the composite sheet having a porous film impregnated with the whole adherent sheet~~ of the composite sheet is used fully permeated within the porous film prior to the laminating step.

26 (currently amended): ~~The~~ A ~~method according to Claim 22~~ of manufacturing a wiring board comprising:

preparing a composite sheet having an adherent sheet containing a thermosetting resin adhered to a porous film or impregnated with at least a part thereof;

laminating at least the composite sheet on a wiring layer having a wiring pattern formed on an insulating layer; and

heating and pressurizing the laminated product thus obtained or heating and pressurizing it after the pressurization to integrate the laminated product, wherein the composite sheet having a releasing resin film attached to the adherent sheet is used.

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27 (new): The method according to Claim 26, wherein the composite sheet having the adherent sheet adhered to a porous film is used and the laminating step is carried out by arranging the porous film side of the composite sheet onto the wiring layer.

28 (new): The method according to Claim 26, wherein the composite sheet having a porous film impregnated with a part of the adherent sheet and the laminating step is carried out by arranging the porous film side of the composite sheet onto the wiring layer.

29 (new): The method according to Claim 26, wherein the composite sheet having a porous film impregnated with the whole adherent sheet is used.